

Claims

What is claimed is:

1. A method in a server system for processing documents comprising information related to geographic locations in a network comprising one or a plurality of server systems, said method comprising for each document the steps of:

- determining geographic coordinates of the geographic location described or referenced in the document;
- encoding said geographic coordinates in a geographic address (gURL);
- tagging said document with said geographic address (gURL).

2. The method according to the preceding claim comprising the further step of:

- tagging said document with one or a plurality of geographic attributes related to the geographic location described or referenced in the document.

3. The method according to any one of the preceding claims wherein:

- said network is an Internet Protocol network;
- said documents are hyper text markup language (HTML) documents;
- said one or plurality of server systems are Web servers;

4. The method according to any one of the preceding claims wherein the geographic coordinates of the geographic location described or referenced in the document are:

- bi-dimensional and preferably expressed in term of longitude and latitude; or
- three-dimensional and preferably expressed in term of longitude, longitude and altitude.

5. The method according to any one of the preceding claims wherein said step of encoding geographic coordinates of the location described or referenced in the document in a geographic address (gURL) comprises the further steps of:

- computing absolute geographic coordinates (X, Y) of said location wherein:
 - the absolute longitude X is the length in meters of the arc of the terrestrial parallel that goes from the Greenwich meridian to said location in clockwise direction; and
 - the absolute latitude Y is the length in meters of the arc of terrestrial meridian from North Pole to said location.
- including said absolute geographic coordinates (X, Y) in said geographic address (gURL).

6. A server system comprising means adapted for carrying out the method according to any one of the preceding claims.

7. A computer readable medium comprising instructions adapted for carrying out the method according to any one of claims 1 to 5.

8. A document that can be accessed on a server system from a client system in a network comprising one or a plurality of server systems and one or a plurality of client systems, comprising information related to a geographic location, said document characterized in that it comprises:

- a tag including a geographic address (gURL), said geographic address comprising encoded geographic coordinates of the geographic location described or referenced in the document.

9. The document according to the claim 8 wherein said tag includes:

- one or a plurality of attributes related to the geographic location described or referenced in the document.

10. The document according to any one of claims 8 to 9 wherein:

- said network is an Internet Protocol network;
- said document is a hyper text markup language (HTML) document;
- said one or plurality of server systems are Web servers;
- said one or plurality of client systems are Web clients.

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att* 11. The method according to any one of claims 8 to 11 wherein the geographic coordinates of the geographic location described or referenced in the document are:

- bi-dimensional and preferably expressed in term of longitude and latitude; or

- three-dimensional and preferably expressed in term of longitude, longitude and altitude.

12. The document according to any one of claims 8 to 10 wherein said encoded geographic coordinates of the geographic location includes:

- absolute geographic coordinates (X, Y) of said location wherein:
 - the absolute longitude X is the length in meters of the arc of the terrestrial parallel that goes from the Greenwich meridian to said location in clockwise direction; and
 - the absolute latitude Y is the length in meters of the arc of terrestrial meridian from North Pole to said location.

13. A method in a client system for searching documents according to claims 8 to 12 in a network comprising one or a plurality of server systems, said method comprising the steps of:

- specifying a reference point;
- determining geographic coordinates of said reference point;
- encoding said geographic coordinates in a geographic address (gURL);
- searching on the one or plurality of server systems for documents tagged with said geographic address (gURL).

14. The method according to claim 13 comprising the further steps of:

- specifying one or a plurality of geographic attributes;

- searching on the one or plurality of server systems, for documents tagged with said one or plurality of geographic attributes.

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15. The method according to any one of claims 13 to 14 comprising the further steps of:

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- specifying a geographic area around the reference point;
- determining geographic coordinates of said geographic area;
- encoding said geographic coordinates in a fuzzy geographic address;
- searching on the one or plurality of server systems, for documents tagged with a geographic address corresponding to a geographic location within the geographic area.

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16. The method according to any one of claims 13 to 15 wherein said step of encoding geographic coordinates of the reference point in a geographic address (gURL) comprises the further steps of:

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- computing absolute geographic coordinates (X_r, Y_r) of said reference point wherein:

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- the absolute longitude X_r is the length in meters of the arc of the terrestrial parallel that goes from the Greenwich meridian to said reference point in clockwise direction; and
- the absolute latitude Y_r is the length in meters of the arc of terrestrial meridian from North Pole to said reference point.

- including said absolute geographic coordinates (X_r, Y_r) in said geographic address (gURL).

17. The method according to any one of claims 13 to 16 wherein said step of encoding geographic coordinates of a geographic area around a reference point in a fuzzy geographic address comprises the further steps of:

- computing fuzzy geographic coordinates (X^*, Y^*) by replacing by a wild card character one or several of the less significant digits of the absolute geographic coordinates (X_r, Y_r) of the reference point, the number of replaced digits depending on the specified geographic area, said wild card character being interpreted as "any trailing string".
- including said fuzzy geographic coordinates (X^*, Y^*) in said fuzzy geographic address.

18. The method according to any one of claims 13 to 17 wherein said step of specifying a reference point comprises the step of:

- selecting the reference point on a digital map by means of any pointing device; or
- specifying the reference point once for all; or
- measuring the actual position of the client system and using said actual position as reference point.

19. A system, in particular a client system, for carrying out the method according to any one of claims 13 to 18.

20. A computer readable medium comprising instructions adapted for carrying out the method according to any one of claims 13 to 18.

21. A method in a client system for displaying geographic information comprised in documents according to claims 8 to 12, said method comprising for each document the steps of:

- retrieving the absolute geographic coordinates from the geographic address tagged on the documents;
- mapping the geographic location according to said absolute geographic coordinates.

22. The method according to claim 21 comprising the further step of:

- associating in a table, network address and the absolute geographic coordinates of each document.

23. The method according to any one of claims 21 to 22 wherein said step of mapping geographic locations comprises the further step of:

- defining a scale according to:
 - the absolute geographic coordinates of documents; and/or
 - some reference geographic coordinates and scales.

24. The method according to any one of claims 21 to 23 wherein the step of mapping a geographic location comprises the step of:

- displaying a sensible icon, optionally used in association with one or a plurality of geographic attributes, for:

- pointing to the absolute geographic coordinates of the geographic location;
- pointing to the network address of the document.

25. The method according to claims 21 to 24 comprising the further step of:

- mapping the reference point.

26. The method according to claims 21 to 25 comprising the further steps of:

- pointing to an icon by means of any pointing device; and
- accessing the document by means of the network address associated with said icon.

27. The method according to any one of the claims 21 to 26 comprising the further steps of:

- pointing to an icon by means of any pointing device; and
- retrieving a minimum information related to the geographic location associated with said icon, said minimum information comprising in particular:
 - a title or name of the geographic location;
 - a short description of said geographic location;
 - geographic coordinates of said geographic location;
 - distance from the reference point to said geographic location; ...

28. The method according to any one of claims 21 to 27 wherein said step of mapping geographic locations comprises the further step of:

- displaying said icons on a geographic map with the same scale and reference point that used to map said sensible icons.

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29. The method according to any one of claims 21 to 28 wherein said step of mapping geographic locations comprises the further step of:

- retrieving a geographic map from one or a plurality of server systems; or
- storing a geographic map in the client system once for all.

30. A system, in particular a client system, for carrying out the method according to any one of claims 21 to 29.

31. A computer readable medium comprising instructions adapted for carrying out the method according to any one of claims 21 to 29.